

## ケーススタディ：後付け改善事例 9.71%出力改善

### Case Study: 9.71% Improvement in kWh/kWp with Optimizers

Tucson Electric Power, Arizona USA 米国 アリゾナ州 ツーソン



Location: Tucson, Arizona USA

System Size: 213kW total

2001年に設置された太陽光発電システム

#### Tigo Energy Optimized System:

System size: 105kW

PV Modules: (352) ASE panels in strings of 8

Year installed: 2001

Optimizers installed: Fall 2012

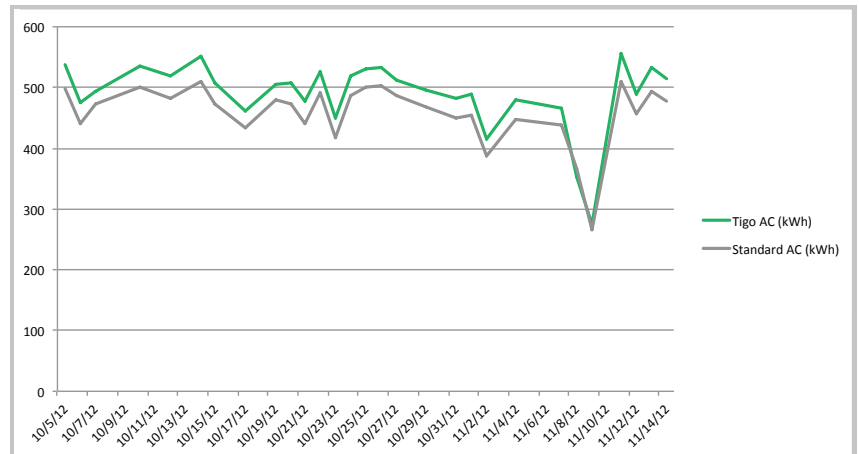
2012年秋にタイゴをレトロフィット

#### Non-Optimized System:

System size: 108kW

PV Modules: (360) ASE panels in strings of 9

Year installed: 2001



System with Tigo Energy optimizers outperforms the legacy system by 9.71% kwh/kwp

### The Challenge 10年以上経過したシステムへ

This test installation was selected to demonstrate the impact of Tigo Energy optimizers on existing systems. The array is located in Tucson, Arizona and is comprised of two unique systems. Both systems are 12 years old using independent AC monitoring capabilities. One system was retrofitted with optimizers and the other was left unchanged.

### The Solution システムの半分にタイゴを後付け

Having Tigo Energy optimizers installed on half the array allowed us a unique view into system performance and how optimizers have been able to change the performance of the array. The difference in performance of these side-by-side and nearly identical arrays was striking.

### The Results – 9.71% gain in kwh/kwp:

Despite having 8 fewer panels and shorter strings the system with Tigo Energy optimizers outperforms the other array by up 16%, with an average of 6.54%. This equates to a 9.71% increase in kwh/kwp. With optimizers TEP is also able to increase the production of the array by analyzing the impacts of blown fuses, weeds growing through the racking, soiling and defective panels.

太陽光発電システムの太陽光パネルは時間の経過とともに外的要因もあり出力にバラツキが生じてきます。それをストリングの中でミスマッチと称しています。タイゴエナジーのインピーダンスマッチング技術によりそのミスマッチの影響を最少限にすることができます。また、ここにもありますようにシステムの問題（フューズ切れ、雑草の成長による影の影響、太陽光パネルの不良等）を遠隔で確認することができます。



This large array in Tucson, AZ is the perfect test site for an optimizers retrofit



Damage such as that of the above panel can cause performance degradation and significant fire hazards